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**MEMORANDUM**

TO Project Permitting File

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SUBJECT Laidlaw Environmental Services - Pinewood Facility (LES)
EPA ID NUMBER SCD 070 375 985
Sumter County, South Carolina

Evaluation of the LES status under the RCRIS Corrective Action Environmental Indicator Event Codes CA725 and CA750

## I. PURPOSE OF MEMORANDUM

This memorandum is written to formalize an evaluation of the LES status in relation to the following RCRIS corrective action codes

1) Human Exposures Controlled Determination (CA725)

2) Groundwater Releases Controlled Determination (CA750)

The applicability of these event codes adheres to the definitions and guidance provided by the Office of Solid Waste (OSW), United States Environmental Protection Agency - Washington, D C in the July 29. 1994, memorandum to the U S EPA Regional Waste Management Division Directors

The State of South Carolina became authorized in January 1995 for implementing those portions of RCRA covered under the HSWA Corrective Action process The recommendations provided in this document have been generated in cooperation with the U S EPA Region IV staff through the use of EPA's current Environmental Indicator ranking system

## II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are three national status codes under CA725 These status codes are

1) YE Yes, applicable as of this date

2) NA Previous determination no longer applicable as of this date

3) NC No control measures necessary

The State of South Carolina, in conjunction with EPA Region IV, has also added a RCRIS status code to CA725 which tracks initial evaluations in which a determination is made that plausible human exposures to current contamination risks are not controlled This status code is listed as "NO, not applicable as of this date " Use of the status code is only applicable during the first CA725 evaluation Evaluations subsequent to the first evaluation will use the national status codes (i e , YE, NA and NC) to explain the current status of exposure controls

Note that the three national status codes for CA725 are based on the entire facility (i e , the codes are not SWMU specific ) Therefore, every area at the facility must meet the definition before a YE. NA or NC status code can be entered for CA725 Similarly, the status code NO is applicable if plausible human exposures are not controlled in any areas of the facility

This particular CA725 evaluation is the first evaluation performed by SCDHEC for LES Because assumptions have to be made as to whether or not human exposures to current media

contamination are plausible and, if plausible, whether or not controls are in place to address these plausible exposures, this memorandum first examines each environmental media (i e , soil, groundwater, surface water, air) at the entire facility including any offsite contamination emanating from the facility rather than from any individual area or releases After this independent media by media examination is presented, a final recommendation is offered as to the proper CA725 status code for LES

The following discussions, interpretations and conclusions on contamination and exposures at the facility are based primarily on the following reference documents RCRA Facility Investigation Final Report, dated December 29, 1994, Revised Corrective Measures Study, dated October 16, 1996, the Second Quarter 1997 Expanded Assessment Report, the May 1997 Interim Corrective Measures/3008(h) Order Progress Report. and the Hazardous Waste Permit with supporting application

## III. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

### A. Groundwater

The appropriate option under this section is Option 3 - Groundwater is contaminated and plausible human exposures are controlled by interim measures and access controls

Groundwater contamination has been assessed in two aquifer units at the LES site The first is the surficial aquifer unit Releases from surface soil "hot spots" have contaminated groundwater at concentrations above Maximum Contaminant Levels (MCLs) This contamination consists primarily of the following volatile organic constituents tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethene, and 1,1-dichloroethane Several of these constituents have been detected in wells WT-22, WT-23, WT-25, and WT-30 at concentrations close to their respective MCLs Contamination consisting of tetrachloroethene at 246 parts per billion (ppb) in WT-22 is reported in the May 1997 Interim Corrective Measures/3008(h) Progress Report The MCL for tetrachloroethene is 5 0 ppb Surficial groundwater contamination was pumped from wells WT-1 and WT-4 Groundwater contamination has generally been confined to the water table aquifer in the area between landfill Sections I and II

The second zone of groundwater contamination is the Upper Black Creek (UBC) aquifer Monitoring wells UBC-1, UBC-2, UBC-3, UBC-4, UBC-5, UBC-9, CBC-8, and PW-4 monitor groundwater quality in the UBC This monitoring has been conducted under the Expanded Assessment program The primary constituents of concern in the UBC aquifer are 1,1-dichloroethane, 1,1-dichloroethene trans-1.2-dichloroethene, trichloroethene, tetrachloroethene, and toluene Groundwater contamination in the UBC above applicable action levels has not been detected since approximately July 1995 Contamination of the UBC aquifer has been remediated by pumping and treating contaminated groundwater from well PW-4

There is no plausible human exposure to this contamination since the contaminated groundwater is located below the surface, and is not discharging to any surface water features In addition, the groundwater contaminant plume has been remediated under Administrative Consent Order 87-27-R

Based on the above Option 3 discussion, plausible human exposures to groundwater contamination are controlled

**B. Surface Water**

Option 1 Surface water associated with the facility is not contaminated at this time

Because there is no contamination or contamination is not reasonably expected to have occurred, there are no plausible human exposures which must be controlled due to contaminated surface water

**C. Soil**

Option 3 Soil is contaminated onsite and plausible onsite human exposures are controlled by interim measures and access controls

A RCRA Facility Investigation and Corrective Measures Study has been conducted for LES in fulfillment of the 3008(h) Administrative Consent Order between LES and the U S EPA Results from the RFI report indicated that a series of soil "hot spots" exist at the facility The presence of the "hot spots" have yielded elevated levels of organic contaminants in the water table aquifer at the facility The Department is currently in the process of reviewing the revised CMS Report for LES concurrently with the U S EPA Final selection of a corrective measures action (CMA)for the impacted soil areas is currently being evaluated Based on the current revised CMS Report, a risk assessment is to be performed Depending on the results of the risk assessment, a final CMA decision for the impacted soil areas will be selected

**D. Air**

Option 1 Releases to air from soil, groundwater and/or surface water contaminated by SWMU's and/or AOC's at the facility is not known to be occurring at concentrations above relevant action levels or not expected to be occurring above relevant action levels Therefore, there is no plausible human exposures to contamination via an air route The hazardous waste permit condition II V 18 required the submittal of an ambient air monitoring plan (AAMP) in order to evaluate the ambient air in the vicinity of Pinewood, S C for toxic/hazardous air pollutants This AAMP is currently under review by the Department

## IV. STATUS CODE RECOMMENDATION FOR CA725:

**Recommendation Option 1: CA725 YE Sub-Option 1B**

As discussed in Section III, interim measures and access controls are effectively controlling human exposures to all environmental media of concern at LES Because these measures are controlling human exposures to existing contamination, it is recommended that CA725, YE, Sub-Option 1B be entered into RCRIS

## V. GROUNDWATER RELEASES CONTROLLED DETERMINATION:

There are three status codes listed under CA750

1 YE Yes, applicable as of this date

2 NA Previous determination no longer applicable as of this date

3 NR No releases to groundwater

SCDHEC, in conjunction with EPA Region IV, has also added an additional status code which tracks the initial evaluations in which a determination is made that groundwater releases are not controlled This status code is listed as "NO, not applicable as of this date " Use of the status code is only applicable in the first CA750 evaluation Evaluations subsequent to the first evaluation will use the national codes (i e ,YE, NA and NR) to explain the current status of groundwater control

Note that the three national status codes for CA750 are designed to measure the adequacy of actively or passively controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels The point where the success or failure of controlling the migration of hazardous constituents is measured is termed the designated boundary (e g , the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc ) Therefore, every contaminated area at the facility must meet the definition before these event/status codes can be entered Simularly, the status code is applicable if contaminated groundwater is not controlled in any area(s) of the facility

This particular CA750 evaluation is the first formal evaluation performed by SCDHEC for LES Please note that CA750 is based on the adequate control of all contaminated groundwater at the facility

The following discussions, interpretations and conclusions on contaminated groundwater at the facility are based on the following reference documents RCRA Facility Investigation Final Report, dated December 29, 1994, Revised Corrective Measures Study, dated October 16, 1996, the Second Quarter 1997 Expanded Assessment Report. and the May 1997 Interim Corrective Measures/3008(h) Progress Report

Groundwater contamination has been assessed in two aquifer units at the LES site The first is the surficial aquifer unit Releases from surface soil "hot spots" have contaminated groundwater at concentrations above Maximum Contaminant Levels (MCLs) This contamination consists primarily of the following volatile organic constituents tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethene, and 1,1-dichloroethane Several of these constituents have been detected in wells WT-22 WT-23 WT-25, and WT-30 at concentrations close to their respective MCLs Contamination consisting of tetrachloroethene at 246 parts per billion (ppb) in WT-22 is reported in the May 1997 Interim Corrective Measures/3008(h) Progress Report The MCL for tetrachloroethene is 5 0 ppb Groundwater contamination at WT-22 is being remediated under an Additional Corrective Measure Plan as described in Walker to Hoffman and Bowers, dated 8/4/97 Contamination has generally been confined to the water table aquifer in the area between landfill Sections I and II

The second zone of groundwater contamination is the Upper Black Creek (UBC) aquifer Monitoring wells UBC-1, UBC-2, UBC-3, UBC-4, UBC-5, UBC-9, CBC-8, and PW-4 monitor groundwater quality in the UBC This monitoring has been conducted under the Expanded Assessment program The primary constituents of concern in the UBC aquifer are 1,1-dichloroethane, 1,1-dichloroethene, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, and toluene Groundwater contamination in the UBC above applicable action levels has not been detected since approximately July 1995 Contamination of the UBC aquifer has been remediated by pumping and treating contaminated groundwater from well PW-4 The groundwater contaminant plume has been remediated under Administrative Consent Order 87-27-R

Therefore, Recommendation Option 1 CA750, YE, Sub-option 1A is appropriate Groundwater contamination exists and releases are controlled Groundwater is contaminated above relevant action levels by releases from soil "hot spots", however, control measures consisting of pumping and treating contaminated groundwater from well WT-22 is in place and has been approved by the Department Details of the interim corrective measures being conducted at well WT-22 is described in the document Additional Corrective Measure Plan dated August 04, 1997 Because all groundwater contamination at the facility is controlled and this is the first evaluation at LES, is it recommended that code CA750, YE, Sub-option 1A be entered into RCRIS

## VI. STATUS CODE RECOMMENDATION FOR CA750: (CA750 YE Sub-Option 1A)

Groundwater contamination exists and all releases are controlled